Basin ENERGY

UNCONFORMITY URANIUM TARGETS IDENTIFIED AT NORTH MILLENNIUM

Key Highlights

- **3D inversion of historical geophysical datasets completed[1]; results support exploration model for unconformity style uranium mineralisation.**
  - **Five-kilometre target corridor defined at North Millennium located along interpreted fault extension, host of Cameco's Millennium uranium deposit.**
- **Positive uranium market sentiment continues to build, with U3O8 SPOT price exceeding US$63/Lb.**
- **Work continues at the Geikie uranium project, with final assay results from maiden drilling and preliminary gravity results expected in September.**
- **Basin remains fully funded with 5.2 million in cash reserves as at 30 June 2023.**

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Basin Energy Limited (**ASX:BSN**) ('**Basin**' or the '**Company**') is pleased to provide an update on its North Millennium Project (the '**Project**') located in the southeastern part of the world-class Athabasca Basin (Figure 1).

As part of our ongoing assessment of the Project, the Company engaged geophysical experts Computational Geosciences Inc. and Convolutions Geoscience to conduct modern 3D inversion and processing works of the historical geophysical data. Of significance, this work provides further support for the interpretation of a 5-kilometre ('km') structural target corridor at North Millennium continuous to the Mother Fault, host of Cameco's Millennium deposit 7km to the south. The definition of this corridor, known to be the conduit for mineralisation at the world class Millennium Deposit is highly encouraging given that little exploration has ever been conducted on these tenements. Basin will utilise these interpretations as a basis for future exploration, in conjunction with the ongoing works at the Geikie uranium project.

Basin's Managing Director, Pete Moorhouse, commented "*Basin has continued advancing the North Millennium Project through the reprocessing of historic geophysical data. The delineation of disruptions to a basement conductor by an extension to the fault responsible for hosting the world class Millennium uranium deposit provides a tantalising target for unconformity and basement style uranium mineralisation.*

[1] Refer ASX Prospectus dated 13 October 2022.

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Recent discoveries in the area from projects such as West McArthur[2] and Moon Lake South[3] demonstrate the discovery potential for high-grade uranium mineralisation in this part of the Athabasca Basin. The results from Basin's study show the exploration prospectivity that North Millennium holds.

Whilst our short-term focus will be the follow up of shallow targets identified through phase one drilling at Geikie, we continue to position the wider portfolio of quality uranium projects to be drill tested.

The uranium sector has had multiple positive catalysts in recent weeks, which is being reflected in the U_3O_8 spot price. As momentum continues to build, our aim is to position Basin as the preferred ASX listed explorer for high grade uranium discoveries."

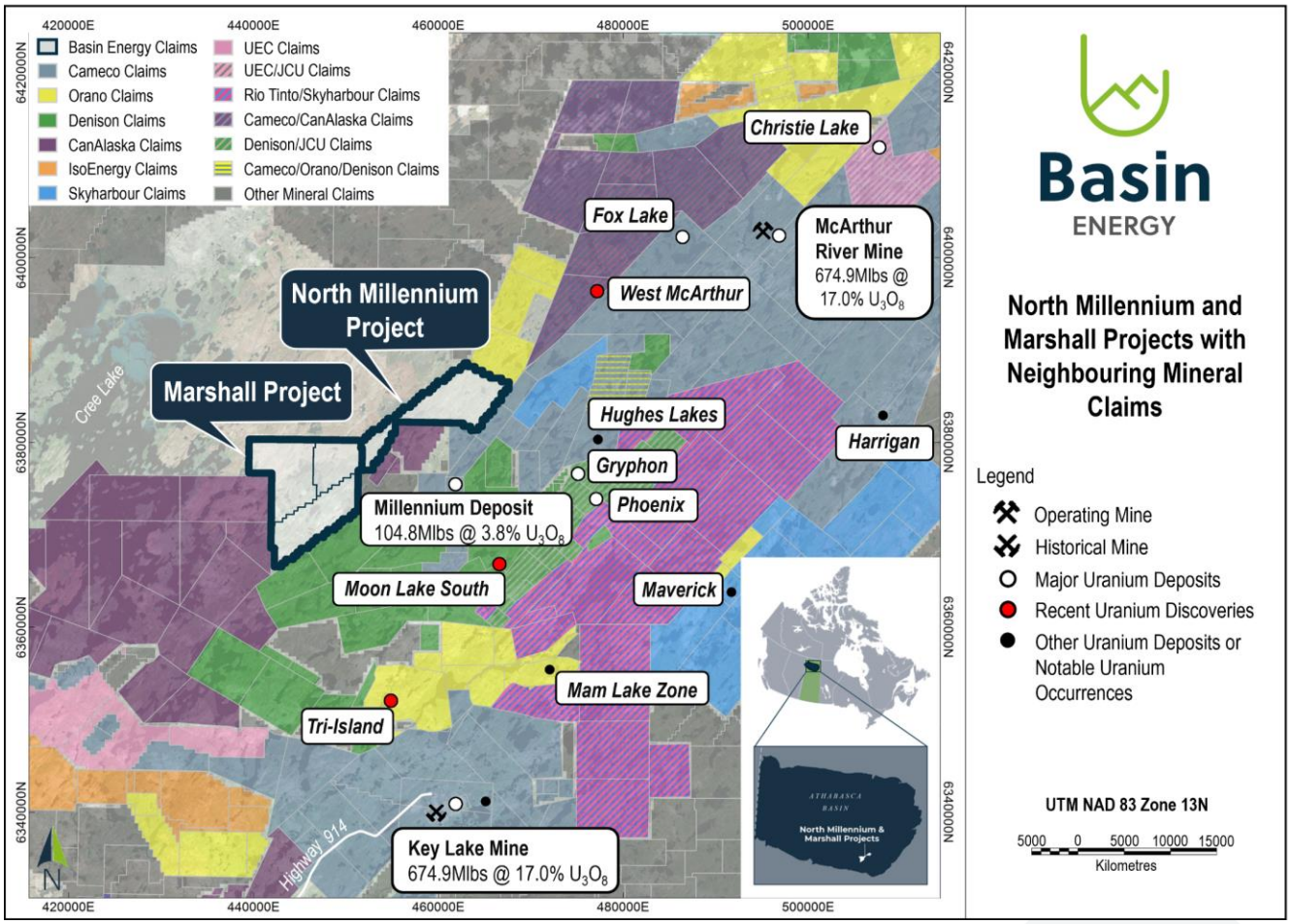

Figure 1[4]: North Millennium and Marshall tenements with neighbouring tenements and uranium deposits.

[2] Refer TSX Press Release dated 15 August 2023 from CanAlaska Uranium Ltd: CanAlaska Confirms High-Grade Uranium Intersections from Winter Program at West McArthur Project.
[3] Refer TSX Press Release dated 19 April 2023 from Denison Mines Corp.: Denison Announces Discovery of High-Grade Uranium Mineralization at Moon Lake South.
[4] Refer ASX Prospectus dated 22 August 2022 for resource figures quoted.

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Current Interpretation of the North Millennium Project

The North Millennium project is located in the southeastern portion of the Athabasca Basin, and is situated 7km north of Cameco's Millennium deposit along the interpreted extension of the host Mother Fault. Basin holds a 40% interest in the project with an option agreement that allows an earn in to 80%.

Minimal historical mineral exploration at the Project occurred between 1979 to 2012, however there are no known historical exploration drill holes. Historical geophysical exploration work was limited to regional scale airborne surveys, and small scale airborne and ground-based electromagnetic surveys with complete or only partial coverage of the Project.

The depth of the unconformity is estimated to be between 700 and 900 metres ('m'). Z-Tipper Axis Electromagnetics ("**ZTEM**") was the only geophysical method used to date that appears to accurately detect the location of graphitic basement conductors. Additional work consisted of systematic geochemical sampling of lake sediments and sandstone boulders, to measure pathfinder elements concentration and clay mineralogy.

During early compilation work on the North Millennium Project, the Company identified two uranium targets along a 5km conductor corridor (Figure 2). The targets are outlined by coincident magnetic breaks and electromagnetic conductor disruption just seven kilometres from Cameco's Millennium uranium deposit, host to 104.8 million pounds U_3O_8 at 3.76%[5].

The uranium mineralisation at Cameco's Millennium deposit is hosted within the north-south trending Host Assemblage basement metasediments where the conductor corridor changes orientation from north-south to northeast-southwest. The Host Assemblage metasediments are hanging-wall to the "Mother Fault", a 10 metre-wide, strongly altered, north-south trending fault zone with a reverse sense of displacement (Figure 2).

Previously documented genetic models of the Millennium uranium deposit have interpreted the Mother Fault to be the main conduit for ore-bearing fluids entering the basement rocks to form the deposit. Based on the regional magnetic data (Figure 2), a sharp break in the magnetic grain and a disruption of the conductors on the North Millennium project are observed immediately north of Cameco's Millennium deposit. These breaks create a strong north-south lineament which is interpreted to be the continuation of the Mother Fault onto the North Millennium project (Priority Area 1). This lineament pattern is similar to that of the Millennium deposit where a northeast-southwest trending conductive package intersects an interpreted north-south fault zone.

[5] Refer ASX Prospectus dated 22 August 2022 for resource figures quoted.

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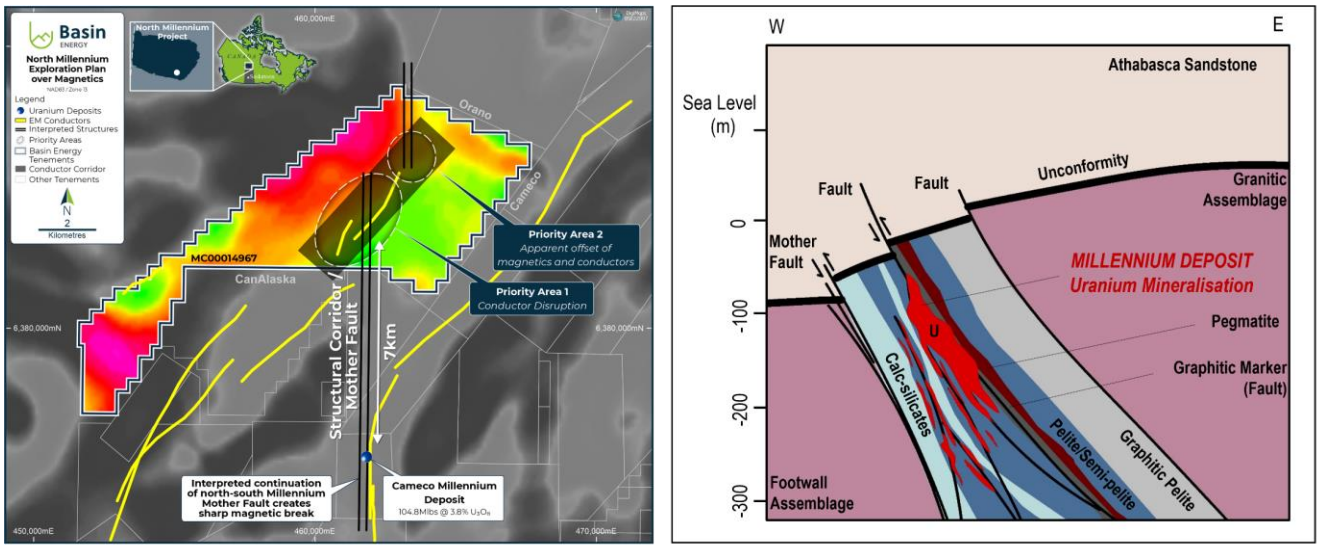

Figure 2: North Millennium Project Exploration Plans (left) and Cameco's Millennium Deposit type section (right)[6].

3D Inversion of ZTEM data

Computational Geosciences Inc. was contracted to invert a ZTEM dataset collected over Kodiak Exploration's historical McTavish project partially covering the current North Millennium mineral claims (Figure 3 and 4). ZTEM is an airborne electromagnetic geophysical technique which detects anomalies in the earth's natural magnetic field. ZTEM surveys are designed to map resistivity contrasts to great depths, exceeding 1-2km, making the technique well-suited to unconformity related uranium mineralisation exploration in the North Millennium Projects area.

3D models of electric conductivity have been produced, accounting for survey geometry and topography, and constrained by a basin-wide unconformity surface:

- The 3D inversion model cut 200m below the projected unconformity surface (Figure 3) highlights several conductive features disrupted by a broad north-south trending structure interpreted to be the extension of the Millennium "Mother Fault" (Figure 2).
- The relative conductive anomalism appears to strengthen in the sandstone at the northern tip of the Mother Fault extension as shown on Figure 4.
- These conductor disruptions in addition to the sharp magnetic breaks and the interpreted conductive anomalous in the sandstone provide immediate targets for Athabasca unconformity and basement hosted uranium mineralisation exploration.

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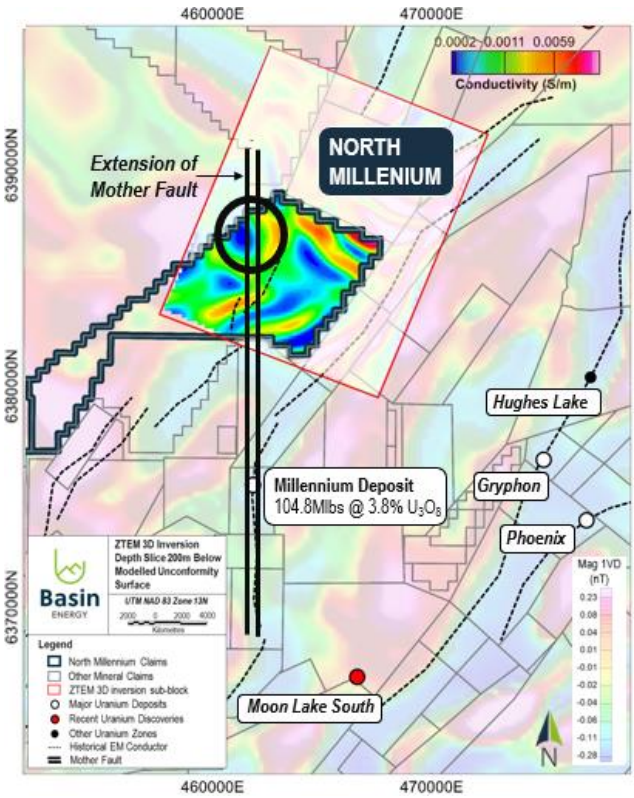

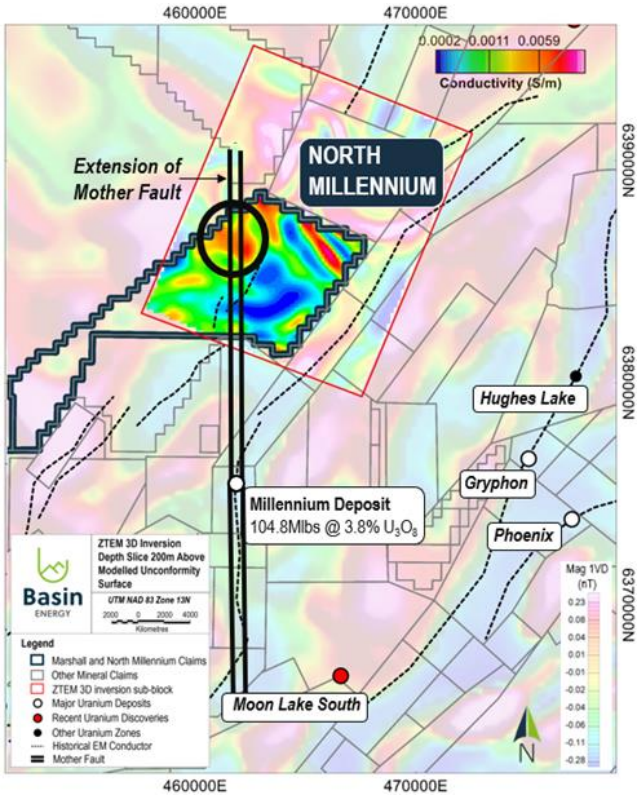

Figure 3 (left): 3D inversion ZTEM depth slice 200m below modelled unconformity surface over first vertical derivative magnetics

Figure 4 (right): 3D inversion ZTEM depth slice 200m above modelled unconformity surface over first vertical derivative magnetics

Next Steps

Next steps for the Project will likely include Stepwise Moving Loop Time-Domain Electromagnetic (SWML TDEM) surveys combined with Direct Current Resistivity and Induced Polarisation (DCIP) over the priority areas highlighted in figures 2 to 4. Electrical and electromagnetic methods are commonly used in the Athabasca region to detect subsurface geological targets often in association with uranium mineralisation. Such geological targets include large graphitic conductors and the mapping of faults and fracture zones. Both SWML TDEM and DCIP methods are ground-based surveys, offering smaller scale coverage with higher resolution geophysical imagery.

Following the completion of the ground geophysical surveys, drill targeting will prioritise areas of conductivity high anomalies along zones of magnetic transition with associated DCIP resistivity low.

The Company is also conducting a similar review of the neighbouring Marshall project and results of this review are expected in the near-term.

This announcement has been approved for release by the Board of Basin Energy.

Enquiries

Pete Moorhouse
Managing Director
pete.m@basinenergy.com.au
+61 7 3667 7449

Chloe Hayes
Investor & Media Relations
chloe@janemorganmanagement.com.au
+61 458 619 317

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Company Overview

About Basin Energy

Basin Energy (ASX: **BSN**) is a uranium exploration and development company with an interest in three highly prospective projects positioned in the southeast corner and margins of the world-renowned Athabasca Basin in Canada.

Directors & Management

Pete Moorhouse	**Managing Director**
Blake Steele	**Non-executive Chairman**
Cory Belyk	**Non-executive Director**
Jeremy Clark	**Non-executive Director**
Peter Bird	**Non-executive Director**
Ben Donovan	**NED & Company Secretary**
Odile Maufrais	**Exploration Manager**

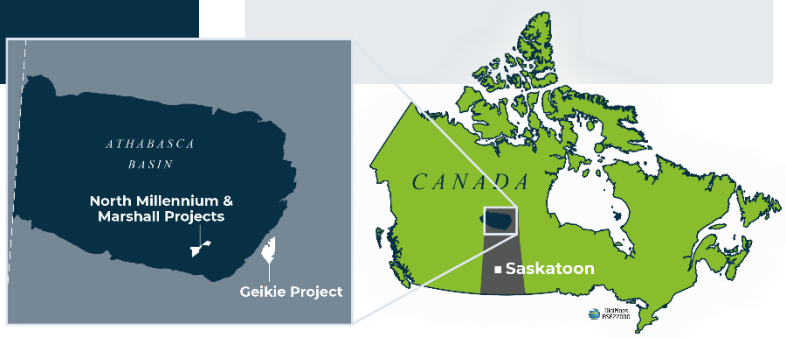
Basin Energy
ACN 655 515 110

Projects
North Millennium
Geikie
Marshall

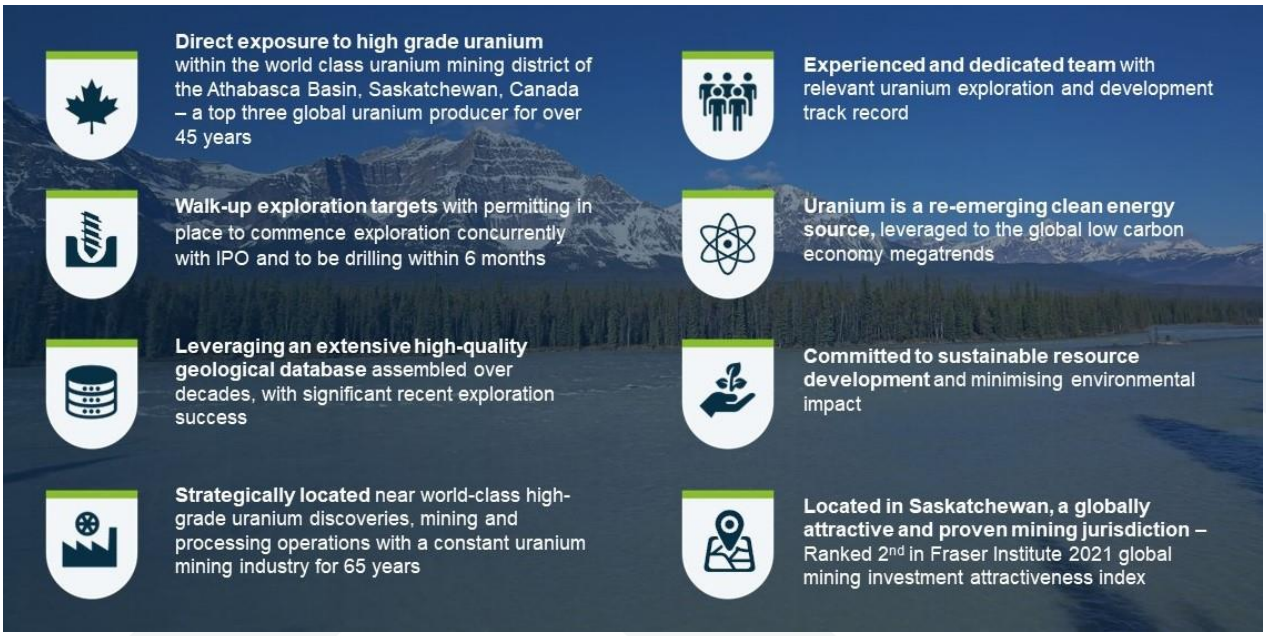
Shares on Issue
81,229,697

Options
13,300,000

ASX Code
BSN



Investment Highlights



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Appendix 1

Competent Persons Statement, Resource Figure Notes and Forward Looking Statement

The information in this announcement that relates to exploration results was first reported by the Company in accordance with ASX listing rule 5.7 in the Company's prospectus dated 22nd August 2022 and announced on the ASX market platform on 30th September 2022, and data announced in subsequent ASX press releases by Basin Energy relating to exploration activities. The information included within this release is a fair representation of available information compiled by Odile Maufrais, M.Sc., a competent person who is a Member of the Australian Institute of Mining and Metallurgy. Odile Maufrais is employed by Basin Energy Ltd as Exploration Manager. Odile Maufrais has sufficient experience that is relevant to the style of mineralisation and type of deposits under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code of Reporting of Exploration Results, Mineral Resources and Ore Reserves. Odile Maufrais consents to the inclusion in this presentation of the matters based on his work in the form and context in which it appears.

All resource figures shown within this document of deposits within the Athabasca, unless stated are quoted from the International Atomic Energy Agency (IAEA) Tecdoc 1857. Resources are global and include mined resource and all classification of remaining resource. Resource Size (U_3O_8) is the amount of contained uranium (in Mlbs U_3O_8) and average grade (in % U_3O_8) of the deposit/system. This number is presented without a specific cut-off grade, as the cut-off value differs from deposit to deposit and is dependent on resource calculation specifications. Discrepancies between values in this field and other values in the public domain may be due to separate cut-off values used, or updated values since the writing of this document. For system entries, the values for the size were obtained by adding the individual deposits values whereas average grade values were derived using a weighted average of the individual deposits.

This announcement includes certain "Forward-looking Statements". The words "forecast", "estimate", "like", "anticipate", "project", "opinion", "should", "could", "may", "target" and other similar expressions are intended to identify forward looking statements. All statements, other than statements of historical fact, included herein, including without limitation, statements regarding forecast cash flows and future expansion plans and development objectives of Basin Energy involve various risks and uncertainties. There can be no assurance that such statements will prove to be accurate and actual results and future events could differ materially from those anticipated in such statements.

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Appendix 2

1 JORC CODE, 2012 EDITION – TABLE 1 REPORT

1.1 Section 1 Sampling Techniques and Data

Data in this Table 1 refers to 3D inversion modelling of historical geophysical data. All other information referenced was disclosed within the Basin Energy prospectus lodged with the ASX 22/08/2022 and subsequent ASX exploration updates.

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Criteria	JORC Code explanation	Commentary
Sampling techniques	• *Nature and quality of sampling (e.g., cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc.). These examples should not be taken as limiting the broad meaning of sampling.* • *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* • *Aspects of the determination of mineralisation that are Material to the Public Report.* • *In cases where 'industry standard' work has been done this would be relatively simple (e.g., 'reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay'). In other cases, more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g., submarine nodules) may warrant disclosure of detailed information.*	• Results reported relate to 3D inversion modelling of two historical ZTEM datasets collected by Geotech Ltd. over the Owl lake and McTavish areas within the Athabasca Basin located in northern Saskatchewan. The two surveys partially cover the North Millennium and Marshall projects. • The modelling accounts for survey geometry and topography. SRTM elevation data at 1 arcsecond resolution was used to build a digital elevation model for the area of interest and the surrounding area. • 3D models of electric conductivity have been produced that fit in-phase and quadrature tipper data at all six frequencies to a reasonable degree. • The modelling domain was discretized by an OcTreemesh with smallest cells of size 75m ×75m ×37.5m at the surface of the area of interest. • The deliverables include an unconstrained model as well as a constrained model by estimating of the unconformity surface separating the metamorphic craton and sedimentary rocks of the basin for each area of interest: Unconstrained Upper Bound 100 S/m Basin Sediments Initial Value 0.00025 S/m Basin Sediments Upper Bound 0.01 Basin Sediments Lower Bound 0.0001 Unconstrained Lower Bound 10^{-6} S/m Basement Initial Value 0.001 S/m Basement Upper Bound 0.1 Basement Lower Bound 0.0001 • In-phase and quadrature of both tipper vector components Tzx and Tzy and of all six frequencies was used for the inversion. • The inversions applied standard L2

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Criteria	JORC Code explanation	Commentary
		regularization with isotropic smoothness weights. • Separating the noise from the signal is a subjective process; therefore, the delivered inversion results have been chosen based on a reasonable tradeoff between fitting the data, and not introducing spurious structure in the model.
Drilling techniques	• *Drill type (e.g., core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g., core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).*	• Not applicable to 3D inversion modelling of historical ZTEM data.
Drill sample recovery	• *Method of recording and assessing core and chip sample recoveries and results assessed.* • *Measures taken to maximise sample recovery and ensure representative nature of the samples.* • *Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.*	• Not applicable to 3D inversion modelling of historical ZTEM data.
Logging	• *Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and metallurgical studies.* • *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* • *The total length and percentage of the relevant intersections logged.*	• Not applicable to 3D inversion modelling of historical ZTEM data.
Sub-sampling techniques and	• *If core, whether cut or sawn and whether quarter, half or all core taken.* • *If non-core, whether riffled,*	• Not applicable to 3D inversion modelling of historical ZTEM data.

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Criteria	JORC Code explanation	Commentary
sample preparation	*tube sampled, rotary split, etc. and whether sampled wet or dry.* • *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* • *Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.* • *Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling.* • *Whether sample sizes are appropriate to the grain size of the material being sampled.*	
Quality of assay data and laboratory tests	• *The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.* • *For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.* • *Nature of quality control procedures adopted (e.g., standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e., lack of bias) and precision have been established.*	• Not applicable to 3D inversion modelling of historical ZTEM data.
Verification of sampling and assaying	• *The verification of significant intersections by either independent or alternative company personnel.* • *The use of twinned holes.* • *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic)*	• Not applicable to 3D inversion modelling of historical ZTEM data.

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Criteria	JORC Code explanation	Commentary
	protocols. • *Discuss any adjustment to assay data.*	
Location of data points	• *Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* • *Specification of the grid system used.* • *Quality and adequacy of topographic control.*	• The historical ZTEM surveys were collected in WGS84 datum, UTM zone 13N. • The 3D inversion models were processed and delivered in the same datum and coordinate system.
Data spacing and distribution	• *Data spacing for reporting of Exploration Results.* • *Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.* • *Whether sample compositing has been applied.*	• The historical ZTEM data was collected at a nominal flight spacing of 400 m. • Flight lines were oriented NW-SE, an orientation perpendicular to the principal strike direction inferred from regional magnetic data.
Orientation of data in relation to geological structure	• *Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.* • *If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.*	• See above.
Sample security	• *The measures taken to ensure sample security.*	• Not applicable to 3D inversion modelling of historical ZTEM data.
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• Data was reviewed by Computational Geosciences and appeared to be mostly free from significant sources of noise after visual inspection and after examination of the power line monitor. The data was deemed suitable for 3D inversion modelling. • Careful data preparation and assignment of standard deviations has allowed the inversions to perform well at separating the noise from the signal in the data. This allowed mostly clean

Criteria	JORC Code explanation	Commentary
		signal to direct the structure and distribution of the physical property models.

1.2 Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary

Mineral tenement and land tenure status	• *Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.*
	• *The security of the tenure held at the time of reporting along with any known impediments to obtaining a license to operate in the area.*
		• The North Millennium Project, located in Northern Saskatchewan, Canada, consists of 1 mineral claims:
		  • MC00014967
		• The Marshall Project, located in Northern Saskatchewan, Canada, consists of 3 mineral claims:
		  • MC00015073
		  • MC00015074
		  • MC00015075
		• All claims are in good standing and subject to the standard and transparent renewal processes.
		• The Projects are currently held 40% by Basin Energy and 60% by TSX-V listed CanAlaska.
		  • Basin has an Earn in agreement up to 80%
		  • Upon Basin reaching 80% ownership, CVV will hold a 2.75% NSR with a buy back option of 0.5%

Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	• Mineral exploration was active in the Projects area from 1979 to 2012.
		• Historical exploration on the Marshall and North Millennium properties consisted of limited uranium exploration.
		• Work on the North Millennium project area include:
		  • SMD/Cameco carried the majority of the work with lake sediment geochemistry, sandstone boulder geochemistry and SWIR spectrometry, airborne magnetic and electromagnetic (INPUT) surveys, ground geophysics (UTEM).
		  • CanAlaska Uranium carried out a VTEM survey that covered the western part of the property accompanied by lake sediment and sandstone boulder geochemistry and SWIR spectrometry.
		  • MEGATEM and ZTEM surveys by Cogema/Areva covered the northern part of the property.
		  • a ZTEM survey by Kodiak Exploration

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Criteria	JORC Code explanation	Commentary
		covered a portion of the western part of the property. • No drilling is known to have occurred on the property. • Work on the Marshall project area include: • Lake sediment geochemistry, sandstone boulder geochemistry and SWIR spectrometry, airborne magnetic and electromagnetic (INPUT) surveys, and ground geophysics (EM37, a TDEM survey). • A ZTEM survey by Kodiak Exploration covered a large part of the property. • CanAlaska Uranium carried out a VTEM survey that covered the majority of the property accompanied by lake sediment and sandstone boulder geochemistry and SWIR spectrometry. • No drilling is known to have occurred on the property.
Geology	• *Deposit type, geological setting and style of mineralisation.*	• The project is deemed prospective for sandstone-hosted and basement-hosted unconformity-related uranium mineralization.
Drill hole Information	• *A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:* ○ *easting and northing of the drill hole collar* ○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.*	• No drilling is known to have occurred on the property. • No material information has been excluded.

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Criteria	JORC Code explanation	Commentary
Data aggregation methods	• *In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.* • *Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.* • *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	• Not applicable – No uranium mineralisation is being reported.
Relationship between mineralisation widths and intercept lengths	• *These relationships are particularly important in the reporting of Exploration Results.* • *If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.* • *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., 'down hole length, true width not known').*	• Not Applicable – No uranium mineralisation is being reported.
Diagrams	• *Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.*	• Not applicable – no significant discoveries are being reported.
Balanced reporting	• *Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration*	• It is the company's opinion that a balanced representation of the early-stage exploration data is being presented.

Criteria	JORC Code explanation	Commentary
	Results.	
Other substantive exploration data	• *Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.*	• All relevant exploration data has been reported.

Further work	• *The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).*
	• *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*
		• Next steps for the Projects could include:
		  • Stepwise Moving Loop Time-Domain Electromagnetic (SWML TDEM) ground surveys
		  • Direct Current Resistivity and Induced Polarisation (DCIP) ground surveys
		  • Diamond drilling.

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